

TDRNN-E

REFLECTOMETER, TIME DOMAIN

1. GENERAL. This procurement requires a portable, self-contained cable tester to identify and locate cable faults. An internal Y-T chart recorder is required.

2. CLASSIFICATION. Type II, Class 3, Style D, and Color R in accordance with MIL-T-28800 for shipboard applications. A tilt-bail handle is required.

3. OPERATIONAL REQUIREMENTS. The equipment shall be capable of operation within the minimum accuracies, limits, and specifications detailed below. Unless otherwise specified, the specifications apply to both configurations.

3.1 Test signal. The equipment shall be capable of generating a test signal that is sufficient for all required measurement parameters.

3.2 Vertical system. The vertical system shall be directly calibrated in reflection coefficient (ρ). A front-panel gain adjustment shall enable the operator to establish a reference level by comparison with a 50 ohm $\pm 1\%$ termination.

3.2.1 Deflection factor. 5 millirhos/div to 500 millirhos/div. Accuracy: $\pm 3\%$ of full scale.

3.3 Horizontal system. The horizontal system shall be calibrated in feet.

3.3.1 Measurement range. 0 to 2,000 feet.

3.3.1.1 Distance scale selector. A control shall be provided for feet/division selection.

3.3.1.2 Distance to fault. A distance-to-fault indicator is required. Resolution: 0.2 in. Accuracy: $\pm(2\%$ of reading + 0.05 ft.) from 0 to 100 ft., $\pm(2\%$ of reading + 1 digit) from 100 to 2,000 ft.

3.3.2 Dielectric selector. Range: 0.55 to 1.

3.4 Display. Oscillographic presentation. The display shall have an internal graticule with 8 vertical and 10 horizontal divisions, with subdivision markings of 0.2 division on the cardinal axes.

3.5 Chart recorder. A Y-T chart recorder shall be provided to record the displayed signal. The recorder shall operate from the internal power source of the equipment. Accuracy: see 3.2.1 and 3.3.1.2.

4. GENERAL REQUIREMENTS.

4.1 Power source. MIL-T-28800 nominal and dc internal power source requirements are invoked as detailed below.

4.1.1 Nominal power source. Maximum power consumption: 25W.

4.1.2 DC internal power source. Internal batteries and charger are required. Minimum operating time shall be 5 hours following a maximum recharge time of 20 hours.

4.2 Weight. 10 kg (22 lb) maximum.

4.3 Lithium batteries. Per MIL-T-28800, lithium batteries are prohibited without prior authorization. A

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request for approval for the use of lithium batteries, including those encapsulated in integrated circuits, shall be submitted to the procuring activity at the time of submission of proposals. Approval shall apply only to the specific model proposed.

4.4 Accessories. One 50 ohm precision termination ($\pm 1.0\%$) and one precision 50-ohm cable for operation verification shall be provided with the equipment.